Controlled Access - Collision Hall

Revision Log

Version Number	Date Approved	Pages Affected	Description of Revisions
1.0	3/7/01	All	Initial Issue
1.1	12/19/02	3-8	See sidebars

Approvals

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1 INTRODUCTION

1.1 Purpose

This procedure describes the actions to be taken when making a controlled access into the DØ collision hall.

1.2 Scope and Applicability

The DØ Controlled-access Coordinator, Shift Captains, DØ workers, and Main Control Room personnel shall adhere to this procedure. Duties described herein for Beams Division Main Control Room personnel are provided for information only and are consistent with Beams Division operating procedures for controlled access. The procedure does not address supervised access, or any solenoid or toroid power-on accesses.

2 PRECAUTIONS AND LIMITATIONS

A. Current Radiological Worker Training, Controlled-access Training, DØ Hazard Awareness Training, and LOTO 1 Training are required for each person making a controlled access into the DØ collision hall.

B. Controlled-access keys are to be kept on one's person at all times during the access. Keys must NEVER leave the DØ area.

C. If exposure rates exceeding 20 mR per hour are encountered during an access, personnel must leave the enclosure using the normal controlled-access procedure and inform the Controlled-access Coordinator.

D. Items removed from the collision hall must be checked for radioactivity.

E. Personnel must frisk themselves upon leaving the collision hall.

F. The following work is not permitted without an approved Radiation Work Permit:

- cutting, grinding, or welding
- work on beamline magnet interfaces or beam pipes
- work in posted contamination areas or high radiation areas

3 PREREQUISITE ACTIONS

3.1 Documents

Controlled-access Coordinator

[1] Locate the DØ Controlled-access Key Sign-Out Log.

3.2 Special equipment, tools, parts, and supplies

[1] Obtain Log Survey Meters (LSMs) for radiation surveys.

3.3 Special approvals

Controlled-access Coordinator

[1] Verify that the DØ Run Coordinator or designee has scheduled or approved the controlled access.

[2] Obtain permission from the MCR Crew Chief to conduct the controlled access.

3.4 Special training

None

4 PROCEDURE

4.1 Preparing for access

Controlled-access Coordinator

[1] IF the Central and EF Toroids, and/or Solenoid magnet power supplies are on, THEN instruct the DØ shift operator to reduce the magnet currents to zero amps and lock out the supplies with DØ Operations locks.

NOTE *The solenoid takes approximately 15 minutes to ramp down to zero amps.*

[2] Before allowing entry into the collision hall, verify that the toroid and solenoid are turned OFF, AND confirm with the DØ shift operator that both the toroid and solenoid supplies have been locked OFF.

4.2 Making an access

4.2.1 Duties of Controlled-access Coordinator

[1] Record the name and ID number of each person requesting a controlled access in the DØ Controlled-access Key Sign-out Log.

[2] Inform each access party of the maximum permitted duration of the access.

[3] Verify that each person is wearing a TLD badge.

[4] Verify that each access party has a Log Survey Meter.

[5] Call MCR (x 3721) and ask them to release the key tree door.

[6] Issue a key to each member of the access party, giving the MCR their Fermilab ID numbers, and four-digit controlled-access key number. Record each key number in the DØ Controlled-access Key Sign-out Log.

NOTE *One DØ collision hall controlled-access key must remain in the key tree at all times. This key is for emergency use only.*

[7] Close the key tree door and verify that it is re-secured.

[8] Inform each access party that the access can begin.

[9] Observe the entry to the collision hall.

4.2.2 Duties of each member of access party

[1] Receive the Controlled-Access key from the Controlled-access Coordinator and keep it on their person until their access is completed.

[2] Enter the collision hall using the proper entry procedure.

[3] Survey their work area in the collision hall with the LSM.

4.2.3 Duties of Main Control Room

[1] Release the key tree door.

[2] Ask for and enter the four-digit key number, and Fermilab ID into the key logger AND verify that each person requesting to make an access is qualified.

4.3 Ending an access

4.3.1 Duties of Controlled-access Coordinator

[1] Record the time of exit of each person in the access party on the DØ Controlled-access Key Sign-out Log.

[2] Inform the Main Control Room when the access party has left the collision hall and request that MCR release the key tree door.

[3] Retrieve each key and return it to the keytree, informing the MCR of each four-digit key number as it is returned.

[4] Close the keytree door and verify that it has been re-secured.

[5] Verify that the enclosure interlocks remain made up.

[6] IF this is the last access party to leave AND all keys are in the key tree, THEN do the following:

[a] Confirm that the electrical permit/warning sirens sound.

[b] Inform the MCR that the all personnel are out of the enclosure, the access is at an end, and the beam permit may be restored, as far as DØ is concerned.

[c] Inform the DØ Shift Captain that s/he can record the end of the access in the DØ Shift Log.

4.3.2 Duties of each member of access party

[1] Exit the collision hall using proper controlled-access procedures.

[2] Inform the Controlled-access Coordinator that you have left the collision hall, and return your key to the Coordinator so it can be placed in the key tree.

4.3.3 Duties of Main Control Room

[1] Release the key tree door.

[2] Enter the key numbers of the returned keys into the key logger.

4.4 Departure from proper procedure

4.4.1 Potential safety concerns

Controlled-access Coordinator

[1] IF there is a departure from the controlled-access procedures during the access that could lead to a safety concern (for example, someone has entered the collision hall without a key), THEN do the following:

[a] Drop the collision hall interlocks by opening the controlled-access door.

[b] Inform the following people:

- Particle Physics Division Radiation Safety Officer
- Beams Division Radiation Safety Officer
- Main Control Room Crew Chief
- DØ Run Coordinator
- Shift Captain

[c] Prepare a written account of the situation.

[d] Await instructions from the Beams Division RSO.

NOTE *The Beams Division RSO will discuss the situation with the Beams Division and Particle Physics Division Heads.*

4.4.2 Unintended dropping of enclosure interlocks

Controlled-access Coordinator

[1] Inform the DØ Shift Captain, and instruct him/her to notify the MCR.

[2] Obtain statements from each person involved and attempt to determine the reason(s) why the interlocks were dropped.

[3] Prepare a note for the Run Coordinator, summarizing what happened.

[4] Determine, after consulting with the Shift Captain, the Run Coordinator, and the MCR, whether the controlled-access period should end immediately and all other work parties should leave the hall, or whether other work parties may continue with their accesses until it is time for the collision hall to be re-searched and secured.

NOTE *All accesses following an unintended dropping of the collision hall interlocks shall continue to follow the controlled-access procedure unless and until supervised-access conditions are established. If a decision is made to revert to supervised-access status rather than re-search and secure the hall, then all controlled-access work parties must leave the hall and return their controlled-access key before supervised-access conditions can be established.*

Shift Captain

[1] Contact the MCR and inform them of the dropped interlocks.

[2] Arrange for a re-search and secure of the collision hall, or determine, in consultation with the MCR and the Run Coordinator, that the collision hall should revert to supervised access status.

[3] Contact any other access parties in the collision hall, inform them that the interlocks were dropped, and indicate when the re-search and secure will occur or that the hall will revert to supervised access status.

4.5 Approaching the controlled-access time limit

Controlled-access Coordinator

[1] IF the length of the access is approaching the time limit given by the MCR and the work is not near completion, THEN do the following:

[2] Ask the Shift Captain to contact the MCR to determine whether the access duration can be extended, if necessary.

[3] IF the answer is NO, THEN:

- **[a]** Contact each access party.
- **[b]** Request that everyone leave the enclosure.
- **[c]** Go to section 4.3 of this procedure.

[4] IF the answer is YES, THEN contact the access parties and inform them of the extension.

5 REFERENCES

A. DØ Call List

6 APPENDICES

None